

**Office of the State Fire Marshal
California Building Code and California Fire Code
Recommendation to the California Building Standards
Commission
June 11, 2003**

Executive Summary

The Office of the State Fire Marshal (SFM) is recommending adoption of NFPA 5000, Building Construction and Safety Code and NFPA 1, Uniform Fire Code for all occupancies regulated by the SFM. This recommendation is based upon our determination that these codes will best serve the people of the State of California and will allow this office to most effectively meet its statutory and regulatory responsibilities for protecting and maintaining public safety in building construction and use. For this reason, the SFM requests that the California Building Standards Commission accept its recommendation that the 2003 editions of NFPA 5000 and NFPA 1 be adopted as the base documents for the California Building Code and the California Fire Code.

The Legislature vested in the SFM the primary responsibility for ensuring fire and life safety in the adoption and enforcement of building standards. As discussed below, the building standards adopted by the SFM are applied across nearly all occupancies, in every area of the state. We ask the Commission to consider the broad jurisdiction and responsibility of the SFM in its assessment of the state agency reports and in its final decision with regard to model code selection.

Given the importance of the model code selection to public safety and the SFM's responsibilities, and in order to ensure that this determination was based on a thorough technical comparison and factual analysis, this office conducted a code review using the Incident Command System, which produced Operation Code Comparison. This operation involved an exhaustive review and comparison of the alternative model codes with existing California standards that resulted in a 595-page technical report. This technical comparison was presented to the Fire & Life Safety Building Standards Advisory Board and the State Board of Fire Services and assisted in their independent evaluations and deliberations. After public hearings in which all interested parties and members of the public were afforded opportunities to testify and submit information – both advisory boards voted to support and recommend adoption of NFPA 5000, Building Construction and Safety Code and NFPA 1, Uniform Fire Code.

The recommendation presented in this report is supported by the technical analysis and reports resulting from Operation Code Comparison, the recommendations of the Fire & Life Safety Building Standards Advisory Board and the State Board of Fire Services, and the assessment of these reports and recommendations by this office. This report describes the SFM's authority with

regard to building standards adoption, presents a detailed overview of the Operation Code Comparison process, and provides a summary of the key findings and considerations that serve as the basis for the recommendation to adopt NFPA's building and fire codes in California.

Authority of State Fire Marshal

The mission of the Office of the State Fire Marshal is to protect life and property through the development and application of fire prevention engineering, education and enforcement. According to statute, the primary responsibility of the SFM is to “foster, promote and develop methods to protect life and property against fire and panic.” (Health & Safety Code § 13100.1.) As a result, the resources of this office are focused on ensuring public safety to the greatest degree possible.

Because of the SFM's singular focus on public safety, the adoption and enforcement of safety codes is an extraordinarily important part of the SFM's mission and its statutory charge. And, because a majority of the provisions of any building standards code are related to fire and life safety, the SFM has a unique responsibility to ensure that the best available model codes are used as the basis for California's statewide codes. In fact, the SFM has the primary authority to develop and adopt statewide building standards, and rules and regulations to protect life and property against the hazards of fire and panic. Also, the SFM has authority to aid in the enforcement of virtually all of the rules, regulations and building standards related to fire prevention and protection in effect in California. (*Id.* at § 13014.)

The SFM's responsibilities cover a wide variety of occupancies across the state. Indeed, any proposed standard that promotes fire and panic safety must be approved in writing by the SFM prior to adoption by the California Building Standards Commission. (*Id.* at § 18930(a).) The Legislature has charged the SFM with primary responsibility for developing and adopting building standards related to fire and life safety, and it has required reliance on the SFM's technical knowledge and expertise in this area. From hospitals to high-rise hotels, from nursing homes to schools, the SFM has key statutory authority to protect building occupants in structures that are otherwise under the purview of other agencies.

What follows is a summary of the statutory provisions in the fire protection sections of the Health and Safety Code (§§ 13100 et seq. and 13140 et seq.) that vest in the SFM the authority to develop, propose, adopt and enforce rules, regulations and building standards to protect the public against fire and panic.

Occupancies Covered by SFM Authority

The SFM is required to prepare and adopt building standards for the design and construction of egress and ingress, and the installation and maintenance of fire alarm and extinguisher equipment and systems, in any state institution or state-owned or occupied building. (*Id.* at § 13108(a).) In addition, the SFM is required to prepare and adopt regulations, other than building standards, for installing and maintaining equipment and furnishings that present unusual fire hazards in these same occupancies. The SFM also is required to enforce all regulations and building standards related to fire and panic safety in all state institutions and state-owned or occupied buildings. (*Id.* at § 13108(c).)

The SFM is required to develop and adopt regulations establishing new occupancy classifications and specific fire safety standards that are appropriate for residential facilities and residential care facilities. (*Id.* at § 13133.)

The SFM is required to prepare and adopt building standards and regulations that establish minimum requirements for the prevention of fire, and the protection of life and property against fire and panic, in any building or structure used as an asylum, jail, mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school, or any similar occupancy of any capacity, and any occupancy where 50 or more persons can gather in a building, room or structure for entertainment, amusement, instruction, deliberation, worship, drinking or dining, awaiting transportation or education. (*Id.* at § 13143.) These building standards and regulations must establish minimum requirements for (1) means of egress and ingress from the structure and related signage; (2) installation and maintenance of fire extinguishing and fire alarm systems; (3) storage and handling of combustible or explosive materials; and (4) installation and maintenance of appliances, equipment, security bars, grills, grates and furnishings that present a fire, explosion or panic hazard. (*Id.*) These standards and regulations apply to auxiliary and accessory buildings used with any of the above occupancies.

The SFM is required to prepare and adopt building standards and regulations that establish minimum standards for the prevention of fire, and the protection of life and property against fire, in any building or structure used as a home or institution for persons under the protective social care and supervision services provided by a government agency. (*Id.* at § 13143.6.) The occupancies covered under this section are those not otherwise specified in Sections 13113 and 13143, and include, but are not limited to "certified family care homes", "out-of-home placement facilities" and "half-way houses". (*Id.*) The building standards and regulations established under this section must set minimum requirements for the: (1) means of egress from, and ingress into, these occupancies and related signage; (2) installation and maintenance of fire extinguishing and fire alarm system; (3) storage and handling of combustible or explosive materials;

and (4) installation and maintenance of appliances, equipment, security bars, grills, grates and furnishings that present a fire, explosion or panic hazard. (*Id.*)

The SFM is required to prepare and adopt regulations and building standards for the prevention of fire and the protection of life and property against fire and panic in high-rise structures. (*Id.* at § 13211.)

The SFM has authority to establish and enforce building standards, rules and regulations for several specific uses to which a building may be put. The SFM has authority to establish building standards, rules and regulations for a variety of fire prevention systems and devices installed in numerous occupancies across the state.

The SFM has authority to establish rules and regulations for various materials used in the construction of all types of structures built in California to ensure those materials prevent or reduce the risks posed to life and property caused by fire. Moreover, the SFM has authority to establish building standards, rules and regulations for the handling and storage of hazardous materials.

The SFM has authority to inspect certain buildings, and enforce fire and panic safety standards and regulations in certain occupancies in select areas of the state. First, the SFM has authority to enter and inspect all buildings and non-residential premises to enforce the standards, rules and regulations developed and adopted by the SFM under Chapter 1 of Part 2 of Division 12 of the Health and Safety Code. (*Id.* at § 13109.) Second, the SFM, and local fire authorities, are required to enforce all building standards related to fire and panic safety set forth in Titles 19 and 24 of the CCR. (*Id.* at § 13146.) In particular, the SFM has the authority to enforce the rules, regulations and building standards it establishes in all areas outside incorporated cities and districts that provide fire protection services. (*Id.* at § 13146(c).) Moreover, the SFM has the authority to enforce these rules, regulations and standards in cities and districts that provide fire protection services upon request from the chief fire official or governing body of the subject city or district. (*Id.* at § 13146(d).)

Legislative Intent and Action

Section 17921(b) of the State Housing Law, which was enacted in 1981 with passage of AB 921, authorizes the SFM to prepare and adopt building standards, rules and regulations for fire and panic safety in all hotels, motels, lodging houses, apartment houses and dwellings, building and structures accessory thereto. Section 18930(a) (9) of the California Building Standard Law, which was also enacted with passage of AB 921, states that one of the criteria that must be evaluated when determining whether a building standard should be approved for inclusion in the code is whether that standard, if it promotes fire protection and panic safety, has been approved by the SFM.

The legislative history of these two subsections indicates the Legislature's intent to consolidate in one agency all authority for developing, adopting and approving building standards, and rules and regulations, for fire prevention and panic safety in residential dwellings and high rise buildings.

In addition to the Legislature's support, several Executive Branch agencies also supported the transfer of these authorities to the SFM, including HCD. The enrolled bill report prepared by the Business, Transportation and Housing Agency, where HCD resides, stated as follows:

Sponsors of AB 921 believe that unification of the authority to promulgate fire standards and regulations under the State Fire Marshal will provide a central focus on the fire problem, while encouraging coordination in seeking solutions to these problems through effective fire safety code adoptions. Consolidation may also reduce duplication of effort in regulatory functions pertaining to fire safety. We are willing to support this effort. (BTH Enrolled Bill Report, p. 2.)

With passage of AB 921, and enactment of Section 17921(b) and 18930(a)(9), the Legislature took one more step in consolidating within the SFM all authority to develop and adopt building standards that promote fire prevention and panic safety in all occupancies across the state. In this particular case, the occupancies added to SFM jurisdiction were residential. By doing so, the Legislature reduced redundancies and improved consistency in the development and application of building standards, rules and regulations to prevent fire and promote panic safety.

Based on the SFM's statutory authority and the Legislature's clear intent to vest the SFM with primary responsibility in the areas of fire safety, life safety, panic safety, egress, ingress, hazardous materials storage and other safety regulation, the building standards adopted by the SFM are applied across nearly all occupancies, in every area of the state. Because of this broad regulatory responsibility, the SFM has conducted an exhaustive analysis of the available model codes developed by NFPA and ICC. Based on that analysis, the SFM has determined that state adoption of NFPA's codes will best serve the people of the State of California and will enable the SFM to most effectively fulfill its mission.

Process

The SFM code review process began on January 17, 2003, when SFM staff was instructed to compile an objective comparison between the 2001 California Building Code, the 2001 California Fire Code and the following documents:

- 2003 NFPA 5000, Building Construction and Safety Code
- 2003 Draft International Building Code (IBC)

- 2003 ROC Draft NFPA 1, Uniform Fire Code
- 2003 Draft International Fire Code (IFC)

Operation Code Comparison

In order to accomplish this sizable task within limited time constraints, the Incident Command System was utilized, an Incident Action Plan was developed, and Operation Code Comparison was implemented. Under the leadership of the Incident Commander, Gini Krippner, and Branch Directors Joe Garcia and Bill Carmack, ten task groups were formed lead by Senior Deputy State Fire Marshal staff and members from the California Fire Chiefs Association and its Fire Prevention Officers sections (North and South), with additional support given by the Division of the State Architect, Department of Housing and Community Development, and the Office of Statewide Health Planning and Development. In sum, over 48 persons were directly participating in this process representing 17 different fire jurisdictions, 1 building department, and 2 consultancies. Over 2,600 hours were logged against the Operation Code Comparison project.

The comparison was made on specified SFM regulated occupancies: E Occupancies/Day Cares, Atria/Smoke Control/Stages and Platforms, Fire Extinguishing Systems, A Occupancies/Fixed Transit Guideway Systems, High-Rise/R-1 Occupancies, R-2/R-6 Occupancies, I/I-3 Occupancies, H Occupancies/CFC Articles 79 and 80 and the code process comparison. Comparative elements were reviewed for each SFM regulated occupancy: exiting, occupancy group definitions, construction, height, area, location on property, smoke barriers, definitions, occupancy separations, special hazards, fire protection systems, and fire alarm systems.

Nine of the task groups' critical mission was to compare the model codes to the existing regulatory requirements of the 2001 California Building Code and California Fire Code and to identify whether they provided a higher level of protection, a lower level of protection, or were equal. The tenth task group reviewed, compared and identified the differences between NFPA's and the ICC's code development process. These task groups were instructed to not make a recommendation or give opinion of which code to adopt, but rather focus on findings of fact.

These ten task groups were made up of highly motivated and dedicated individuals. Once their findings of fact were finalized, they were assembled into a final report and made available to the public, as well as to the Fire & Life Safety Building Standards Advisory Board (FLSAB) and State Board of Fire Services (SBFS) to assist with their recommendations to the SFM regarding a proposed base code for the California Code of Regulations, Title 24, Parts 2 (California Building Code) and 9 (California Fire Code).

Fire & Life Safety Building Standards Advisory Board (FLSAB)

When the SFM intends to adopt, amend or repeal a building standard, the SFM must utilize the FLSAB for its independent review and recommendation. As such, the FLSAB took up Operation Code Comparison and deliberated its contents on two occasions. The FLSAB consists of twelve members who are appointed by the SFM and composed of the following representatives: an architect (from nominees submitted by the California Council of the American Institute of Architects), mechanical engineer, electrical engineer, fire protection engineer (from nominees submitted by the Society of Fire Protection Engineers), a licensed contractor, two building officials (one each from nominees submitted by the California Building Officials and County Building Officials Association of California), three fire officials (from nominees submitted by the California Fire Chiefs Association), and two members representing the public. Actions of the FLSAB are advisory to the SFM.

During the FLSAB's April 17, 2003, deliberations over Operation Code Comparison and the adoption of the proposed base code for the California Building Code and California Fire Code, nine areas of consideration were established by the members to guide their analysis on each of the codes, as follows (in no particular order):

1. Level of safety provided
2. Ease of use
3. Ease of correlation
4. History of the model code purveyors
5. Economic considerations (including the cost to implement by local jurisdictions, impact on business and local jurisdictions, etc.)
6. Support services provided by the promulgators
7. Input of state, local, building, and fire representatives into the model code development processes
8. Consideration of other state agency comparisons
9. Number of state and local amendments required

At this meeting, the FLSAB also voted to recommend the adoption of building and fire codes from the same code purveyor, rather than recommending a building and a fire code from different purveyors.

Based on discussion and public testimony on those criteria, on May 2, 2003, the members of the FLSAB voted 8 to 4 to recommend adoption of NFPA 5000, Building Construction and Safety Code and NFPA 1, Uniform Fire Code over the ICC codes. This two-thirds majority recommendation in support of NFPA's codes was sent to the SFM, and several members voting in the affirmative also sent letters which clearly outlined their rationale for doing so, based on the nine areas of consideration.

State Board of Fire Services (SBFS)

This matter was first considered on April 24, 2003, when representatives of NFPA and the ICC delivered presentations regarding their code development processes and responded to questions from the board. The May 2nd recommendation of the FLSAB was then referred to the SBFS for their independent recommendation. The SBFS is a 17-member advisory board to the SFM.

The following members of the SBFS are appointed by the Governor: one representative of the insurance industry, one volunteer firefighter (from the California State Firefighters Association), three fire chiefs (one from California Fire Chiefs Association, one from the Fire Districts Association of California, and one from California Metropolitan Fire Chiefs), five fire service labor representatives (one from the California Labor Federation, one from the California Professional Firefighters, one from the International Association of Fire Fighters, one from the California Department of Forestry Firefighters, one from California State Firefighters Association), one fire district representative, one representative from city government, and one representative from county government. The Ex-Officio members include the Director of the Office of Emergency Services, the Chief Deputy Director of the Department of Forestry and Fire Protection, the Chairperson of the California Fire Fighter Joint Apprenticeship Program, and the State Fire Marshal. The board is chaired by the SFM and, among other duties, provides a forum for addressing fire protection and prevention issues of statewide concern and advises the SFM on dissemination of regulations.

The SBFS took up the FLSAB's recommendation on May 29, 2003. During that meeting, the body heard a presentation by the vice-chair of the FLSAB, as well as presentations by the model code purveyors, and members of the public. Following these presentations, the SBFS voted 12 to 1 (with 1 abstention) to recommend adoption of NFPA 5000, Building Construction and Safety Code and NFPA 1, Uniform Fire Code. The SFM did not vote on the measure, since the matter was advisory in preparation for this recommendation to the California Building Standards Commission.

SFM Recommendation

After a thorough review of Operation Code Comparison's technical findings and analysis, a review of the written submittals and reports provided by the technical staff of the model code purveyors and a review of all public comments, testimony and other materials submitted during our code evaluation process, and also based on the overwhelming recommendations of the FLSAB and SBFS to adopt NFPA 5000, Building Construction and Safety Code and NFPA 1, Uniform Fire Code, the Office of the SFM also recommends adoption of NFPA's building and

fire codes as the basis for the California Building Code and the California Fire Code.

A number of the key findings and considerations that serve as the basis for this recommendation are summarized below:

Level of Safety

Operation Code Comparison offered a comprehensive view of how both model codes measure up against the 2001 California Building Code and California Fire Code. Although all of the model codes reviewed will require state amendments to mirror our current requirements set in statute, NFPA's building and fire codes offer higher levels of safety than the ICC codes in many key areas. For example, NFPA 5000 was the first building code drafted to include safeguards for firefighters and emergency responders. These safeguards are demonstrated in the code's provisions by the higher fire-resistant rating for structural members in high-rise buildings, and by no reduction in stairway width when sprinklers are present. Also, NFPA 5000 includes provisions for existing buildings undergoing construction and establishes safety requirements according to the type of construction being completed. This constitutes a major enhancement to public safety resulting from NFPA 5000.

To address safety concerns associated with tall buildings, NFPA 5000 requires four-hour fire-resistant rated construction on buildings in excess of 420 feet in height. Other U.S. building codes include only a three-hour requirement, which they moved to in the 1960s from the historic four-hour requirement. We are in favor of returning to the four-hour requirement, in keeping with the code's objectives to provide for the safety of occupants of these structures, as well as the safety of firefighters and first responders.

Outside of California, we have seen recent devastating incidents occur in public assembly occupancies. For very large public assemblies, NFPA's building and fire codes require life safety evaluations which assess safety measures for listed conditions. This provides a high level of safety for public assembly occupancies.

NFPA 1, Uniform Fire Code is the next generation of the model fire code (Uniform Fire Code) that has served California for so many years. The 2003 edition of NFPA 1, Uniform Fire Code was developed by the Western Fire Chiefs Association in partnership with NFPA.

The result is that NFPA 1, Uniform Fire Code is more comprehensive in terms of the authority granted to fire code enforcers relative to the number of occupancies and hazards regulated. For instance, NFPA 1, Uniform Fire Code includes provisions for existing facilities, offering code enforcers specific provisions to apply to those facilities. And, we found the NFPA fire code to be more user-friendly, as the code includes several Annex chapters that serve as a built-in

handbook for users. Under NFPA 1, Uniform Fire Code, code enforcers will have not only the authority they need to ensure their expertise is fully utilized, but also additional provisions and resources to draw upon in the application/enforcement of the code.

In addition, NFPA has maintained a leadership role in developing the appropriate levels of fire and life safety for generations. Most are unaware that the means of egress provisions now in place in California via the California Building Code were initially developed by NFPA (as part of NFPA 101, Life Safety Code) for the California Building Code's base document, the Uniform Building Code. Similar means of egress and life safety regulations are also in use throughout California, because many hospitals and other health care facilities are required by the federal government to meet the requirements in NFPA 101, Life Safety Code. By using NFPA 5000, California will be simplifying the process of compliance with those federal requirements for health care facilities throughout the state, while maintaining the highest possible level of safety. Further, NFPA 1 is fully correlated with the life safety provisions of NFPA 101.

For these and other reasons, adoption of NFPA 5000, Building Construction and Safety Code and NFPA 1, Uniform Fire Code will provide a higher level of safety than any other set of model building and fire codes currently available.

Code Development Process

As a part of our review, we evaluated the processes employed by both model code promulgators in developing their respective codes. We also specifically requested that both code bodies describe the participation of the fire service in their code development processes. While we found that both code developers employ some degree of "consensus" in their code development processes, only NFPA's accredited process offers consensus participation throughout the entire process, while also including safeguards so that no specific interest group may dominate the inclusion or exclusion of important technical elements.

Our research found that only the NFPA building and fire codes offer independent, third party oversight of its development process. NFPA's code development process is accredited by the American National Standards Institute (ANSI), an independent third party with oversight responsibilities. In order to receive the ANSI-accreditation, the code development process must be fair, open and balanced, and cannot be dominated by any interest group. The process must also provide due process and a means of appeal that meet ANSI requirements. Finally, ANSI regularly audits NFPA's process to ensure its requirements are being met.

The information provided with regard to the NFPA process demonstrates that the NFPA code development technical committees include a balance of all affected interests. This balance is maintained by prohibiting any one group or interest

from representing more than one-third of any NFPA technical committee. Experts from a variety of fields, including building officials and the fire service, volunteer their time and effort to serve on these balanced, working committees. A two-thirds majority of the committee's membership is required to affirm any action, so a vote based on the consensus of all affected parties is mandatory before any provisions are placed into the codes. And, voting is not restricted to certain classes of membership – everyone on the committee has an equal opportunity to fully participate and vote.

The NFPA process also appears to offer more opportunities for fire service participation throughout its process, which the SFM believes best promotes the public safety responsibilities of this office. When we requested that NFPA submit additional information on this issue, my office was provided with a detailed description of the fire service participation in the development of the NFPA building and fire codes. This information clearly shows that the fire service was well represented at every stage of the code development process for the 2003 editions of NFPA 5000 and NFPA 1. In our view, the involvement of the fire service and all other code users and administrators in the code development process has led to the promulgation of codes that our technical review has found to be superior with respect to the protection of the public safety as well as the other criteria listed above.

Coordination

For years, California state agencies with code promulgation authority, and particularly SFM staff, have struggled with coordinating provisions of the California Building Code and California Fire Code through the amendment process. However, with the adoption of the 2003 editions of NFPA 5000 and NFPA 1 as the basis for the California Building Code and California Fire Code, that work is already complete. These building and fire codes were drafted to work together, and are fully correlated with one another and with the many NFPA codes and standards that are used via references in various California safety codes.

Our code evaluation found that all NFPA codes and standards are correlated using a method of extracting text from one code and reprinting it into another code. Provisions in a code that are extracted from another document are identified. Further, under the NFPA approach, the code identifies not only which document the extracted text comes from, but the specific section as well. This is very helpful because the user can easily refer to the corresponding provision in the other code.

In addition, only the NFPA building and fire codes are coordinated with the other NFPA codes that are currently in use in California, and those anticipated to be used in the future. These codes include NFPA 70, National Electrical Code (the base document for the California Electrical Code), NFPA 101, Life Safety Code,

NFPA 54, National Fuel Gas Code and all the other NFPA standards. This is an important distinction, because the ICC codes are not automatically coordinated with the many NFPA standards they reference, most of which are in use in California.

Furthermore, the extraction method of coordination is also used to correlate NFPA 5000 and NFPA 1 with IAPMO's Uniform Mechanical Code and Uniform Plumbing Code, which form the basis for the California Mechanical Code and California Plumbing Code. This is not true with the competing building and fire codes under consideration. The SFM's recommended adoption of NFPA's building and fire code will go quite a distance to bringing California nearer to a fully coordinated set of model codes for the built environment, which will be extremely beneficial to all code enforcers and users throughout the state.

Economic Considerations

Because state agencies and local governments are facing unprecedented budget constraints, we carefully considered the fiscal impacts associated with the competing code adoptions and the alternative code support services offered by the code developers. Based on this review, we have determined that NFPA offers a broader code support package. NFPA's express commitment to support California's adoption by making available complimentary training and the associated codebooks for state agency enforcement staff and local code enforcement officials will save the state and local jurisdictions significant taxpayer resources.

More specifically, NFPA has formally offered to provide a number of resources to help with education and training associated with code adoption. NFPA's post adoption service for code enforcers includes free copies of NFPA 5000 and NFPA 1, Uniform Fire Code. In addition, NFPA has committed to provide free training on each code adopted to state agency personnel and local code enforcers, accompanied by free code instruction manuals. NFPA has also stated that it will donate a set number of Building Code Handbooks and other related documents that may be of benefit to the state agencies. NFPA has also formally stated that it is committed to code support in California and will make available this same code support package each time a new edition of the NFPA codes is adopted.

The code support package offered by NFPA also extends to SFM staff and to the staff of other state agencies in conjunction with the state agency model code adoption and amendment process. NFPA has formally offered to assist state agency staffs with technical and clerical support in locating the current California amendments for placement into NFPA 5000 and NFPA 1, Uniform Fire Code. NFPA has also expressly offered to meet with the staffs to review the document, develop any necessary revisions, and discuss other potential amendments and their relationship to the state code. NFPA also stated in their submittals that, if

requested and pursuant to state agency direction, NFPA staff would be prepared to assist the state agencies in developing and drafting any state amendments to the NFPA codes.

We also have direct experience with NFPA's code support services given California's longstanding adoption of the NFPA National Electrical Code as the base document for the California Electrical Code and the many NFPA standards used in California. NFPA published the California Electrical Code for the state, and the California Electrical Code integrates the state amendments directly into NFPA 70, National Electrical Code.

The SFM also believes that an important benefit to the code-using community of state adoption of NFPA's building and fire codes would be the availability of these documents in an online version, allowing enforcers, users, and the public to review the code in its entirety. These safety codes are posted on NFPA's Web site as a public service, where they can be viewed on demand at no charge. Once the code adoption process is completed, NFPA has offered to work with the state agencies to make the California Building Code and California Fire Code available online for free access, just as the current base codes are now available online. This would be the first time that these parts of Title 24 would be available online and we believe this would be of tremendous benefit to all users of the codes.

Other Miscellaneous Benefits

Our research and investigation also found that NFPA has an established record in public safety education with respect to fire and life safety. Several of NFPA's educational programs relate directly to code support services and to the SFM's responsibilities with respect to the promotion of public safety. Our investigation found the following:

- NFPA has provided code interpretation advisory services for many decades. NFPA provides these advisory services through a technical staff of 120 professionals from appropriate disciplines. These NFPA code interpretation advisory services are provided to state and local jurisdictions at no charge.
- NFPA funds several important research and investigative initiatives that are not only intended to inform those who develop its codes and standards, but that also promote public safety in general. These include the following:
 - NFPA's Fire Analysis and Research Division is the recognized industry leader in the analysis of the fire incidents in the United States. This service develops widely distributed reports that are provided to the NFPA code development committees and may stimulate committee action to develop proposals for the codes. Jurisdictions across the country and many in California rely on this technical information to justify public safety policy on the state and local level. This information is also helpful to code officials when

considering equivalencies or alternate materials and methods of construction. NFPA is the only code purveyor to provide this service.

- NFPA is also the only model code developer with an on-scene fire investigations function. NFPA's Fire Investigations division maintains communications with data sources throughout the U.S. and Canada, particularly state and provincial fire marshals and metropolitan fire chiefs. During these investigations, NFPA's sole purpose is to collect, analyze, and report facts about the incident and to provide requested technical assistance to state and local officials. These reports are provided to NFPA code development committees for possible action.
- All model codes, including NFPA 5000 and NFPA 1, have allowances for the use of alternative materials and methods of construction. However, NFPA 5000 and NFPA 1 establish stated goals and performance-based design provisions within the model code. The goals and objectives established in chapter 4 and the performance-based design requirements in chapter 5 establish a methodology for building owners, designers, and enforcers to utilize in order to establish equivalencies for compliance.
- NFPA has indicated that it is establishing a product evaluation service to assess the ability of technologies and products to meet requirements included in NFPA 5000. This evaluation service will be provided in partnership with and coordinated with the International Association of Plumbing and Mechanical Officials, which operates long-established construction product evaluation services that are relied upon by many public agencies and by the private sector. According to NFPA, the NFPA 5000 evaluation service will be operational before the end of the year and will be based in California. Code enforcers would utilize this service to evaluate products to the requirements of NFPA 5000.
- NFPA has a unique ability in its code adoption process that facilitates the introduction of emergency code amendments. This makes it much easier on the adopting state agency if the provision is already a part of the model code. This process quickly rectifies flaws with our codes at the discovery of a problem, usually after a tragic fire.

In conclusion, after careful and detailed review, involving many experts in the field of public safety, the SFM has determined that NFPA 5000, Building Construction and Safety Code and NFPA 1, Uniform Fire Code are the best choices to protect and maintain public health and safety in building construction in California. For this reason, this office recommends that the California Building Standards Commission designate NFPA's codes as the basis for the California Building Code and the California Fire Code.